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- (b) The minister theoretically embodies the highest human ideals.
- (c) In practise, he is forced to drudgery and humiliating restrictions.
- (d) Abandonment of trivial, exacting, and of poverty-breeding labors imposed solely by custom and organizations should be undertaken by pastors, but with assumption of the burdens of new issues laid bare by science.
- (e) Educational methods to promote intellectual longevity are demanded. Continued varied interests are equally important for efficiency and happiness.
- (f) Admission to the ranks of religious and moral specialists should be made impossible to weaklings and parasites. The newly revealed responsibilities of the ministry require the best of men and better methods than now exist for their training (p. 53).

The undersigned returns thanks for the references mentioned with such delicacy and hesitancy; perhaps it might be profitable for him also to review the elusive details of philology, a modicum of which he once knew when he taught dead languages. In regard to the designation of his modest essay as a "book," the author regrets that a slip of the pen must have caused him to neglect the substitution of a proper word in place of *book*, when condensing for the printer the seven original chapters. He must decline the invitation of Mr. Frame for "a real discussion of the function of the minister and the nature of his method before plunging into a critique of the methods and work of existing seminaries." *A priori* discussions of such problems do not offer attraction, and besides, fossilized seminarians can be found who already are dogmatically certain of that function and method. It is somewhat surprising to the author that a message smacking suspiciously of that old, traditional hostility of theologians to the investigation of religious problems should emanate from a seminary so progressive as the Union Theological Seminary. The writer even contemplates embodying the whole of Mr. Frame's review in his book as an interesting modern illustration of the survival in high places of a certain well-known attitude of mind that has sometimes characterized theologians in the ancient conflict of ecclesiasticism and science.

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SOCIETIES

SECTION OF ANTHROPOLOGY AND PSYCHOLOGY OF THE NEW YORK ACADEMY OF SCIENCES

A JOINT meeting with the New York Branch of the American Psychological Association occurred on February 22, 1909. An afternoon session was held in the Psychological Laboratory of Columbia University, and, after dinner at the Faculty Club of this university, an evening session was held at the American Museum of Natural History. The scientific program was as follows:

Professor Edward L. Thorndike, speaking on the "Correlation of Sensory Discrimination and Intellect," reported measurements of the relation of (1) the factor common to accuracy in drawing lines and making up weights, to (2) the factor common to efficiency in scholarship and ability to gain a high rating for intellect from fellow pupils and teachers. This was found to be, not 1.00, as stated by Spearman (1904), but between 0.17 and 0.30. Other facts were given contradicting that author's hypothesis that whatever community there is between mental functions is due to one same core of identity present in all.

Professor T. L. Bolton reported "Some Observations with the Tapping Test." These observations were made to determine the value of different lengths of rest between successive trials with the tapping apparatus, and also to discover the effect of different pauses upon the daily practise gain in a series of tests. Five trials at tapping were taken with five, ten, and twenty seconds rest between successive trials; both hands were used and the tests were continued for twelve to sixteen days with the three reagents and two classes of students of thirty each. The rest pauses for five successive trials were favorable to the amount of work in the order of twenty, ten, and five. The right hand responded more favorably than the left. The average daily gain was greater for trials with five seconds rest than for ten or twenty. The amount of practise gain seems to depend upon the amount of fatigue which the work engenders. The practise gain for the second half of the tests was greater than for the first half, which seems to mean that practise at first consists in overcoming the inhibiting effects of fatigue. The fact that the five-second rest shows a greater average daily gain than the ten or twenty would seem to indicate that in a long series the five seconds rest must prove the more favorable to work. When use is made of this test to make comparisons between high and low types of intellect and of normal with abnormal subjects account must be taken of the degree of practise efficiency in which the normal class of subjects finds itself. Professor Kraepelin's proposition that comparisons must be made between the various rates of practise gain or loss seems to hold good. (These observations were taken and collated by Miss Batty, of the University of Nebraska.)

Professor Robert MacDougall presented a paper on "An Application of the Concept of Space Dimension to Experience in Time." Experience in time is sometimes illustrated by the form of one-dimensional space. The latter concept involves, directly or indirectly, such implications as motion in a right line; modification in the rate of such motion and reversibility in its direction; the determinateness of each point in the system, and continuity of direction

among all pairs of points. The paper was concerned with the development of some of the consequences which would follow from applying this spatial conception to human experience.

Free motion, projected in terms of time, would make any point of past or future realizable at will; while the conditions of a right line require that each intervening event find place in the series by which that point is reached. Modification of rate appears in intensive variations of experience as well as in primary acceleration or retardation. Reversal of direction calls for a change in the affective sign of experience. The conception of a right line requires a deterministic theory of conduct, but the relation of each new point to the direction of the preceding series represents the sense of inner consistency, or subjective free-will. The form of experience in time thus realizes, in part, the requirements of the spatial conception, but, in part, its order radically departs therefrom.

Professor D. S. Miller spoke on "The Knowledge of Temperament from Within and from Without." In every-day life there are two ways of alluding to a man's knowledge of himself; favorable and unfavorable. We say "only the man himself can answer that question,"—some question about his motives or thoughts; on the other hand, we say "that it would be well if a man could see himself as others see him." To these two attitudes there correspond a philosophical theory and a psychological theory. The philosophical theory is that in the case of consciousness, appearance and reality coincide: therefore everybody is by the nature of the case acquainted with the contents of his present consciousness. The psychological theory (set forth by Mr. Santayana) is that it is instinct and habit, the constitutional, which determines a man's action and forms his nature; that these can better be observed by the external spectator; that the play of consciousness matters little in comparison.

As regards all these it is clear that the philosophical theory is right. A man is acquainted with the contents of his consciousness. But the important thing in knowing his temperament is not what his consciousness is at any moment, but what further consciousness and what acts it will lead to. Thus a man is acquainted with his consciousness, but generally fails to "know himself."

As for the psychological theory, it can not be true that consciousness matters nothing, or even matters little. All consciousness is "impulsive," or motor. All consciousness is, therefore, a force toward action. Consciousness which is prevented by circumstances or stronger impulses from being realized is still a force, though a defeated and buried force. Were the circumstances changed or the paramount impulses altered, the defeated consciousness would have its way. Thus a person who knows his consciousness knows real

forces making for action. A person may also observe his own acts and life as truly as an external spectator may observe them.

The conclusion is, then, that as between the observer from within and the observer from without it is the inner observer who can see everything. The difficulty for him lies in the many false emphases of consciousness. It is a difficult art for the inner observer really to read the prognostic signs of his consciousness and acts. The advantage of the outer observer is in simplification; all the baffled forces are omitted from his view. But on that very account the outer observer lacks the full material for judgment. It is the inner observer who has them all, could he but master the art of reading the tokens correctly.

A discussion on the "Concept of a Sensation" was opened by Professor John Dewey, who distinguished the following meanings of the term:

1. The anatomical—for so it must be called—according to which the sense organ and its central connections are thought of as if dissected out, isolated from the rest of the system, and acting alone. The isolation is unreal; the activity of any part is interlinked with simultaneous activities in other parts, and preceding and following activities in the same and other parts. There is never a state of rest, which might serve to isolate the subsequent activity, but everything is really a process of readjustment throughout the system.

2. The physiological or biological conception of a sensori-motor reaction, as frequently stated, is subject to the same criticism: the reaction is not isolated, nor is the stimulus exclusively peripheral, for the existing condition of the central organs is part cause of the reaction, and this reaction helps determine the stimulus finally operative.

3. A sensation is often conceived in psychology as a "sensory quality," and these qualities are assumed to be primitive and to correspond with elementary processes in the sense organs. This is a good deal of an assumption, since the qualities are known to us only as the apex of a whole system of physiological functioning. We see the color of an object rather than the color itself; we do not start with the sensory qualities and build up the object by putting them together, but we begin with the object, and only reach the sensory quality by an elaborate process of differentiation. The sensory quality is a late achievement, not a primary datum. The "elements" of structural psychology are the last terms of intellectual discrimination.

4. The sensory qualities—as equivalent to Locke's simple ideas—are thought of as the units of knowledge, as the irreducible mini-

mum which can not be torn off by any amount of criticism of the percept. Locke, however, does not mean, nor would it be true, that all apparent knowledge is made up of single ideas. He was interested not in tracing the genetic psychology of knowledge, but in providing a logical device for testing knowledge and for appealing against prejudice, dogma, and authority. His sensations were not elements of composition, but ultimate, and hence elementary, criteria and tests of assurance.

5. The every-day use of the term sensation is illustrated by the phrase "sensational newspaper." Here the sensation is not an element, but a total concrete experience, the essential fact about which is that it is a shock, an interruption of an adjustment which had been running smoothly. While the "sensory qualities" are thoroughly objective, these shock experiences have the true subjective quality, since they have, for the instant, no meaning or objective reference. Their character as sensations is exhausted by this absence of reference; there is but one true sensory quality—the quality of shock. From the point of view of logic, the shock experience is valuable, since a state of suspended reference is the basis of the inductive method. Dogmatism, on the contrary, consists in the prompt interpretation of every new shock into terms of some well-established habit. In its true sense, the mental state, or the subjective, is the conscious starting-point of a qualitatively new habit.

Professor F. J. E. Woodbridge, in following up the discussion, first distinguished two meanings of the term sensation: (1) a reaction of the organism by means of the sense organs; and (2) the sensory qualities of objects. These meanings do not lead to confusion. The confusion arises when we pass to epistemology, and inquire into the relation between the sensation and the thing sensed. We first distinguish between the organism and its environment, and then ask at what particular point the sensation arises. We find it impossible to fix the point, and are driven to conclude either that there is no sensation, or that all is sensation—conclusions which virtually coincide, since they both leave no meaning to the term. It is clear from this that the term should be banished from epistemology and limited to the empirical uses mentioned above.

Professor W. P. Montague offered the following objections to the destructive criticisms of Professor Dewey. Though a sensation does not occur in isolation, yet every perceptual experience has a distinguishable sensory side. We have the same right to distinguish it as we have to distinguish the form and the color of objects, which also never occur in isolation from each other. There is this objection to regarding the sensory qualities as the apex of a long process of development: that, instead of being complex, they seem to be simple in

their nature and their external causes seem to be simple processes. It is likely that to simple processes in the external world should correspond simple effects in the organism, such correspondence being relatively independent of evolutionary development. It is also true that the shock experience arises very often from stimuli which are simple, so that there is reason for relating the experience of shock to the sensory qualities, as is done in the conventional use of the term sensation to cover both sorts of fact. The speaker also called attention to a metaphysically puzzling feature of sensation, namely, its "specious present," or seeming occupancy of a segment of past time at each moment of its existence; but this, he thought, was accounted for in the concept of sensation as a form of potential energy into which the kinetic energy of the neural current is transformed at the moment of its redirection in the central nervous system, or even at the moments of its transit through all the various synapses traversed by it.

Professor R. S. Woodworth advanced the concept of sensory as distinguished from perceptual centers in the cortex, the sensory centers being those which first received the incoming stimuli from the sense organs. According to this neurological conception, there should be a difference in time between the sensation and the percept, but it must be admitted that it is usually impossible to detect, introspectively, an interval between the first reception of the stimulus and the percept of some object, or process. This introspective difficulty has led Professor Pillsbury, in a recent and still unpublished lecture, to the conclusion that there is nothing in consciousness except meanings. From this point of view, it would be honest to give up the concept of sensation in psychology, and to speak simply of the stimulus and of the percept. Though these two would be sufficient for most instances of perception, there remain certain objections to giving up the concept of sensation altogether. There are the pathological cases, in which perception is lost, though sensation remains. There are the shock experiences, in which there is an interval between the first consciousness of the stimulus and the consciousness of its meaning. And there are ambiguous stimuli, like the staircase figure, where, in spite of the alternating percepts, there persists throughout the experience an irreducible conscious minimum, which may best be called sensation.

Professor T. L. Bolton inferred, from observations upon animals at certain moments, that they distinguish by their bodily attitudes and general conduct differences between the various objects of their environments that have practical bearings for their lives. The attitude assumed in the presence of the object is characteristic of the object. A similar phenomenon may be observed in human beings.

This is the fundamental fact in perception, which becomes the feeling of these bodily attitudes that are evoked by an object's presence. Again, we see both animals and human beings acting in the same manner upon objects alike in some respect, but very different in others. This likeness is the objective stimulus for, let us say, a sensation of color. Here then is an activity that is characteristic of the objective stimulus of sensation. This resolves the sensation into essentially the same thing as the perception. In the case of the conventional sensation, the stimulus is merely a part of the objective thing which is present and which, in its totality, might elicit an attitude of the kind which we have called perceptual. The sensation and perception both become the feelings of bodily conduct. In perception the whole object is effective in evoking the attitude. The difference is, then, one not in the mental effect, but rather in the part of the objective fact that is operative in exciting reactions. They are alike in being mental states of bodily changes, and neither is the direct effect of incoming afferent currents.

R. S. WOODWORTH,
Secretary.

REVIEWS AND ABSTRACTS OF LITERATURE

Einführung in die Philosophie. RAOUL RICHTER. Leipzig: B. G. Teubner, 1907. Pp. 128.

Six lectures on the problems of knowledge, reality, and religious and ethical value make up this little book. Of these lectures, the first deals with the nature of philosophy; the second, with the concept of knowledge, and the third, with its object, degrees, and limits; the fourth treats of the metaphysical nature of reality, and the fifth, of its final unity; the sixth examines the nature of religious and ethical value.

In general the author stands for the sharp separation and mutual independence of knowledge and value, for the priority of epistemology, for the idealistic nature of reality and pantheism as the expression of its final unity, and for the individual as the source of determination of all values.

Philosophy is a struggle, no final attainment. It is a struggle after knowledge, the knowledge of the real, whether factual merely or worthful. Its test is satisfaction of the demands of the intellect, not of heart and feeling. The knowledge it seeks is that of the total system of reality. It is neither a mechanical summary of the various sciences nor a substitute for any or all of them. The business of philosophy is critically to examine the presuppositions of the various sciences, and on the basis of their special laws to discover the universal. Religion is to be distinguished from philosophy in that the former is the reaction of feeling and will to the total system of reality as revealed by the latter. But the